

## Draft Response

U.S. Patent Application No.: 08/809,340Page 2

5. (Amended twice) A thermoforming apparatus as claimed in claim 43, wherein  
said template conveyor is a chain conveyor with a pair of chain wheels and having  
a run thereof extending along the respective die or counter-die but beyond the  
encumbrance thereof; and

5 wherein said conveyor comprises a plurality of conveying templates carried at  
predetermined intervals from each other on said conveyor, each conveying template  
being fitted with extraction plate receiving holes with equatorial shoulder for retaining  
the thermoformed articles in proper orientation during their conveyance.

10 6. (Amended twice) A thermoforming apparatus as claimed in claim 43, wherein said  
template conveyor conveying at least one of said receiving conveying templates, said  
template conveyor extends through at least one work and/or treatment station and moves  
stepwise at the opening-closure rate of the dies for receiving thermoformed articles from  
an extraction plate associated with said extraction pick-up means, said extraction plate  
15 withdrawing thermoforming articles from the female die and transferring them to a  
conveying template of said template conveyor whereby conveying the thermoforming  
articles in sequence to said at least one work and/or treatment station along the template  
conveyor.

20 7. (Amended) A thermoforming apparatus as claimed in claim 6, wherein said template  
conveyor conveys two alternate movable templates of the receiving conveying templates,  
so that one of said movable templates is moved laterally, in relation to the female dies, at  
said at least one work and/or treatment station, while the other movable template is in  
front of it to receive a thermoformed article from the extraction plate.

25 8. (Amended) A thermoforming apparatus as claimed in claim 6, wherein said template  
conveyor is a chain-conveyor which comprises a pair of chain wheels around which a  
respective chain is wound, a plurality of said receiving conveying templates being  
carried, spaced at a predetermined distance from each other, on said chain conveyor and  
30 wherein said retention means comprises equatorial shoulders retaining the thermoformed  
articles in proper orientation during their conveyance.

## Draft Response

U.S. Patent Application No.: 08/809,340Page 3

9. (Amended) A thermoforming apparatus as claimed in claim 6,, wherein said template conveyor comprises a train of articulated bearing slides or carriages for a respective conveying template moving through said at least one work and/or treatment station.
- 5 10. (Amended) A thermoforming apparatus as claimed in claim 43, wherein said retention means further comprises a truncated conical collar adjacent each receiving hole.
- 10 11. (Amended) A thermoforming apparatus as claimed in Claim 10, wherein said collar is constituted of resiliently deformable material suitable for exercising retentive pressure on the external surface of a thermoformed article.
- 15 12. (Amended) A thermoforming apparatus as claimed in claim 10, wherein said collar comprises a plurality of resiliently loaded ratchets, installed in said collar and movable towards its internal diameter for engaging with the external surface of a thermoformed article in said receiving hole.
- 20 13. (Amended) A thermoforming apparatus as claimed in Claim 10, wherein said collar comprises suction orifices which exert on the thermoformed article a suction to hold it in proper orientation in its respective receiving hole and with its rim abutting against the template.
- 25 14. (Amended) A thermoforming apparatus as claimed in claim 10, wherein the thermoformed articles have rims and wherein said receiving conveying template has a peripheral recess formed on the exterior surface of the template about the receiving hole for engaging the rim of a thermoformed article received in the receiving hole.
- 30 15. (Amended) A thermoforming apparatus as claimed in claim 6, wherein the thermoformed articles have rims and wherein said conveying template includes a two-diameter adaptor collar installable in a receiving seat of an opening in said conveying template, said adaptor collar providing said receiving hole in said conveying template and having an internal diameter delimited by a tapered upper section, an undercut

## Draft Response

U.S. Patent Application No.: 08/809,340Page 4

intermediate section, an annular shoulder downstream of the undercut section, for receiving a thermoformed article and snap-engage its rim at said undercut section.

16. (Amended) A thermoforming apparatus as claimed in claim 6, wherein the thermoformed articles have rims and wherein said receiving holes have a slightly smaller internal dimension than the external dimension of the thermoformed articles adjacent their rims to be received, so that the thermoformed article is resiliently constrained and properly oriented in the respective receiving hole.

17. (Amended) A thermoforming apparatus as claimed in claim 6, further including eccentric mechanical arrests, each of which is fitted at a respective receiving hole of a conveying template and is movable between an operating position in which it engages the rim of a flanged thermoformed article and an inoperative releasing position.

18. (Amended) A thermoforming apparatus as claimed in claim 17, wherein said arrests are controlled by a rack operated by a motion source.

19. (Amended) A thermoforming apparatus as claimed in claim 6, further including air jets for sinking each of the articles into the receiving holes.

20. (Amended) A thermoforming apparatus as claimed in claim 6, further including a cup-shaped receiving component for a thermoformed article, the cup-shaped component being disposed adjacent at least one of said receiving holes and having at least one orifice in a bottom of the cup-shaped component.

21. (Amended) A thermoforming apparatus as claimed in claim 20, further comprising a push rod for expelling the thermoformed article from the cup-shaped component by acting through said at least one orifice in the bottom of the cup-shaped component.

23. (Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor includes a plurality of conveying templates and wherein said retention means comprises a push-rod which rises from a surface of each conveying template.

## Draft Response

U.S. Patent Application No.: 08/809,340Page 5

43. (Amend d twice) A thermoforming apparatus comprising:

a thermoforming machine fitted with at least one female die; and

5 extraction pick-up means adapted to withdraw a plurality of thermoformed articles from the female die, said extraction pick-up means including a receiving seat for each thermoformed article to be extracted,

wherein the thermoforming machine is fitted with at least one counter-die, the at least one female die and counter-die being reciprocally approachable and removable for the operations of closing, thermoforming and opening,

10 the apparatus further comprising a feeder for feeding thermoforming material between each female die and counter-die, and

at least one receiving station adapted to receive one or more thermoformed articles, wherein said receiving station comprises one or more receiving conveying templates in a template conveyor, each receiving conveying template having an exterior surface and one or more receiving holes disposed within said template and  
15 communicating with said exterior surface, each receiving hole adapted to engage a thermoformed article and an annular collar to define a retention means for removably holding a thermoformed article disposed in the hole, said annular collar having an interior dimension being smallest in a region remote from said exterior surface.

20 45. (Amended) A thermoforming apparatus as claimed in claim 6, wherein said template conveyor comprises a carousel conveyor having at least three arms angularly spaced apart each supporting a respective receiving conveying template.